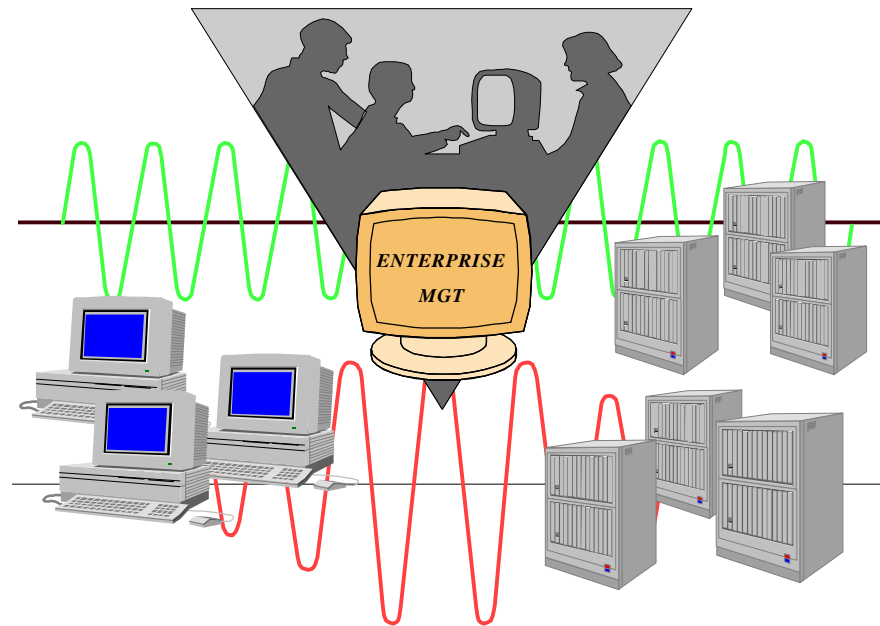


ENTERPRISE MANAGEMENT



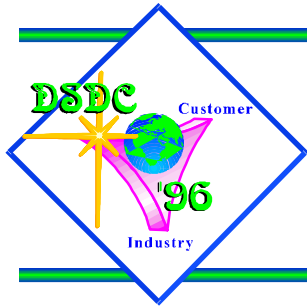
Presented By: Maj Todd Tasseff

DSDC-TA

(614) 692-9047

DSN 850-9047

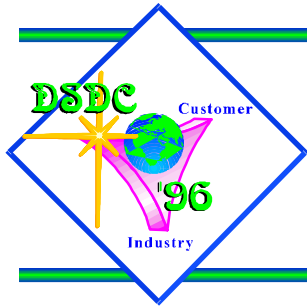
Email: ttasseff@dcdc.dla.mil



Enterprise Management - History

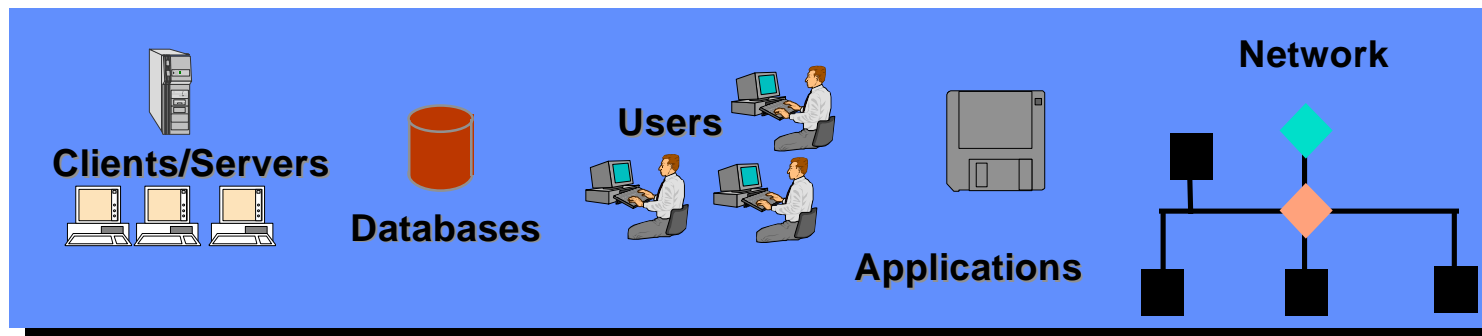


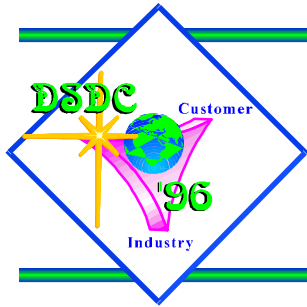
- **DLA Past - Structured/centralized funding & configuration control of corporate comm/computer infrastructure**
- **DMRD 914 Decision -- DLA centers' mainframe computer operations consolidated (DMC) but other tiers still decentralized**
- **DLA Present**
 - **Proliferation of computing platforms (HPs, Suns, Novell servers, NT servers, PCs, etc.) at the local level**
 - **Demand for open systems/client-server applications--scarce system support resources to manage them**
 - **No comprehensive method for evaluation/managing infrastructure components**



Enterprise Management - Need

- **Comprehensive solution -- systems, security, network, applications, database, users -- at local and remote level**
- **Range of platforms/OSs -- mid-tier, servers, workstations**
- **Interoperable with DISA network control**
- **Standards-based - POSIX-UNIX, TCP/IP-SNMP, etc.**
- **Flexible, responsive management environment**
 - **Keep up with growing number of systems/workload**
 - **Customization of environment via COTS integration**
 - **No disruption in service (24 x 7; COOP--Cont. of Ops.)**

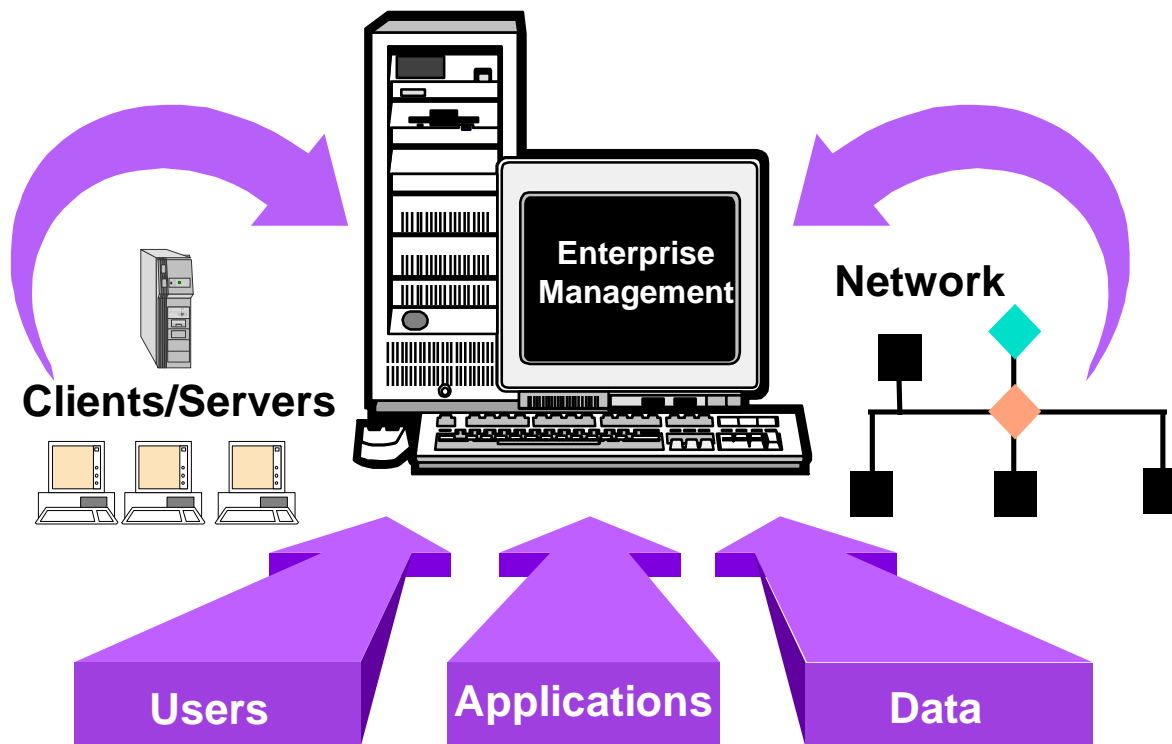


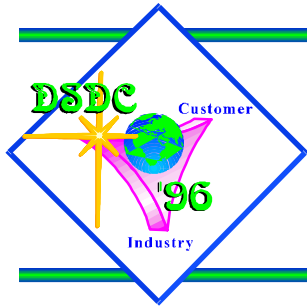


Enterprise Management - Goal

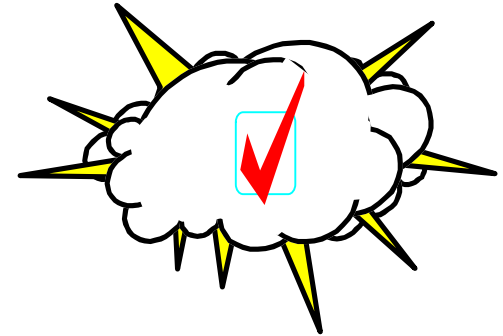
The goal, simply stated:

- **Effect an automated, centralized solution to simplify the management and administration of local and remote DLA computer assets**

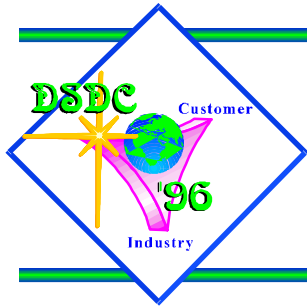




Enterprise Management - Objectives



- **Proactive system management environment**
- **Improved security**
- **Standardization of software and release management (config. mgt.)**
- **Open systems compliance**
- **Products must be COTS, on ID/IQ contracts**
- **Faster problem resolution**
- **Operational savings -- free up resources for other mission-critical tasks**



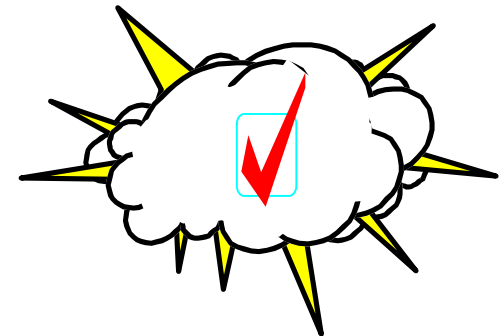
Enterprise Management - Solution Process

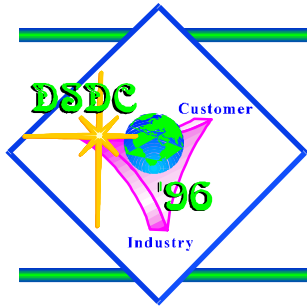
- Evaluate leading enterprise management products from industry
- Look at technical quality, contractor support, training, cost
- Identify product(s) that would meet needs/goal/objectives
- Result:

Tivoli Management Environment for system/network control and software management/distribution

HP Network Node Manager for network & HP system monitoring or SunNet Manager for Suns (both integrated with Tivoli)

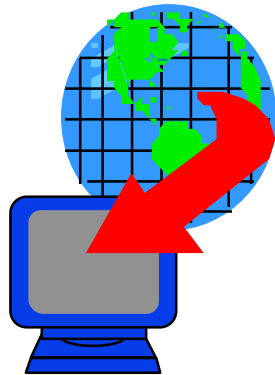
Remedy Action Request System for managing user help-desk function



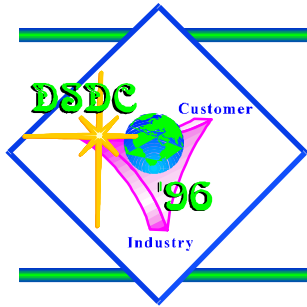


Enterprise Management - Factors in Software Selection

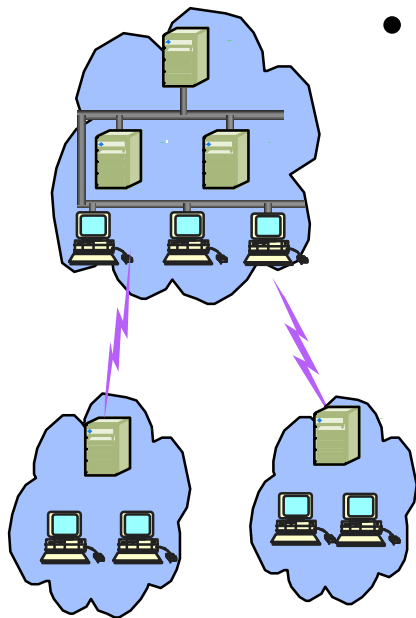
- **Tivoli Management Environment**



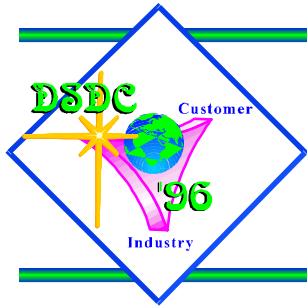
- **Integrated client/server environment, not a point solution--reduces costs, avoids overlaps/gaps**
- **Inventory capability to monitor everything on the network--not just things placed there by the product**
- **Capable of managing LAN software, PC environments, and a heterogeneous UNIX systems**
- **Runs on multiple platforms--vendor independent--can maintain and expand platform base in the outyears**
- **Easily integrated with existing support systems (e.g., HP Openview, SunNet Mgr, Microsoft SMS, MAXM)**



Enterprise Management - Factors in Software Selection (cont.)



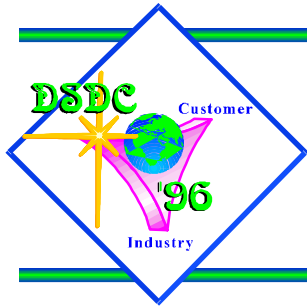
- **Tivoli Management Environment (cont.)**
 - **Software distribution mechanism more flexible**
 - **Throttles network throughput (amounts, time of day) and can replicate distribution points**
 - **Will not interfere with system/application operations**
 - **Security administration more complete**
 - **Uses secure RPCs to the packet level and capable of Kerberos encryption techniques**
 - **Does not interfere with third-part security implementations (not operating system specific)**



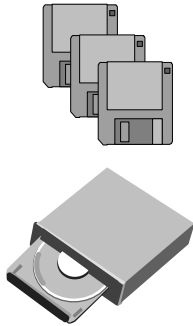
Enterprise Management - Benefits

- **Proactive (vs. reactive) management of the entire enterprise -- universal access to systems and data from single point(s) with low incremental build costs**
- **Workload balancing through improved capacity management and configuration management**
- **Common interface to all systems -- reduces sys admin training time**
- **Safe technology investment--industry standards path**
- **Improved system availability via automatic remote problem detection/correction**
- **Increased system security (controls root access) and integrity (backup integrity maintained) for all systems**

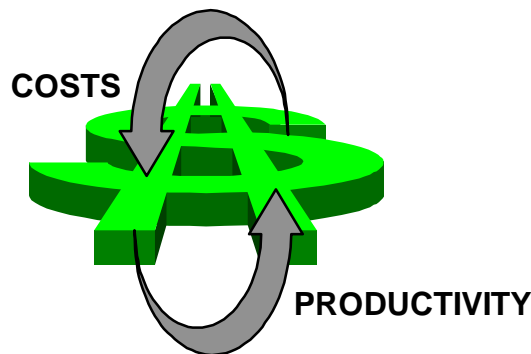


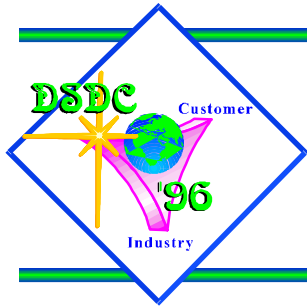


Enterprise Management - Benefits (cont.)



- **Allows applications to be deployed from a single point independent of the local operations site**
 - **Standardized software and release management--automatic and secure fashion**
 - **Applications and data can be distributed to match resources as appropriate**
- **Reduced overall operational costs/labor and enhanced productivity via standardized platform**
 - **Automated system mgt and CM -- reduces need for sys admin/shifts at each remote site**
 - **Rapid and more reliable deployment of new/upgraded software applications**
 - **Business process improvement investment**
 - **Bottom-line: better support for DLA operations and better service for customers**

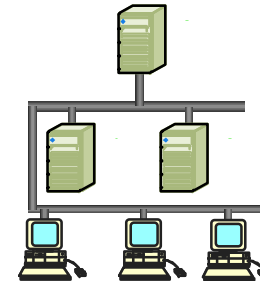


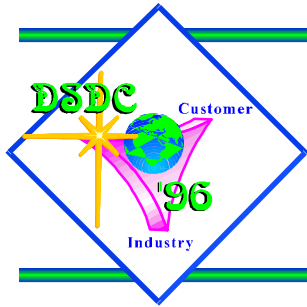


Enterprise Management Solution Description

Major Components:

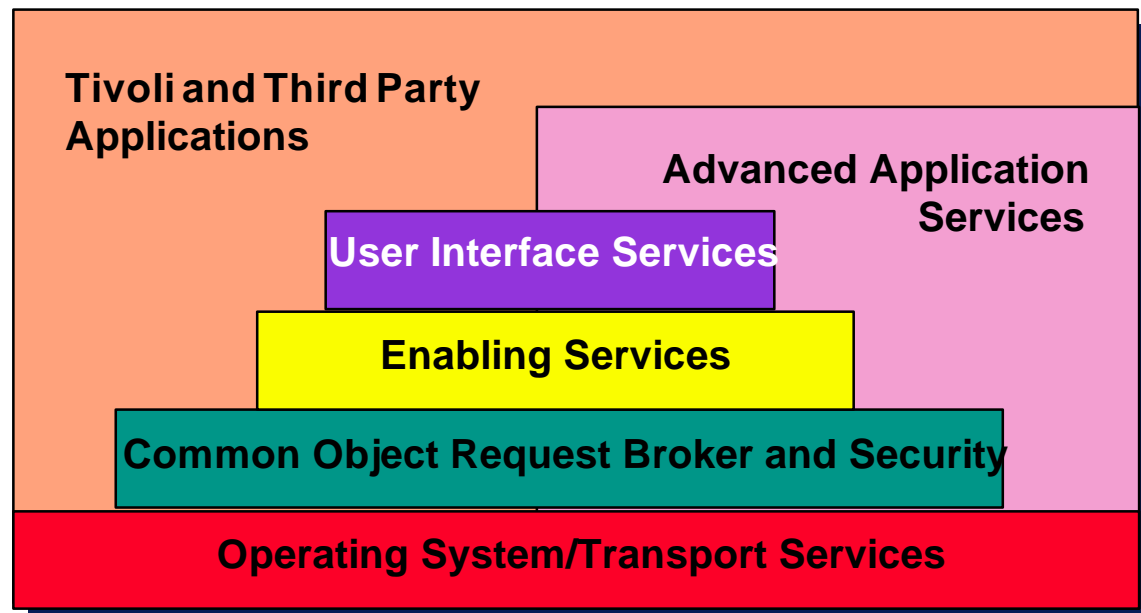
- **Software:**
 - Tivoli Management Environment,
Remedy Action Request System (AFCAC 305 DBM)
 - HP Network Node Manager (AFCAC 300 Super-Mini) or
SunNet Manager (DBM)
 - All integrated into Tivoli Management Environment
- **Hardware:** Up to four HP workstations (AFCAC 300 Super-Mini) -- 1 primary Administration Server/console, 1-2 secondary and 1 test
- **Labor:** DSDC technical integration & PLFA/DSDC support staff
- **Training:** Hands-on training for technical and support staff
- **Contractor Support:** Wang (Tivoli/DBM Contract) and HP

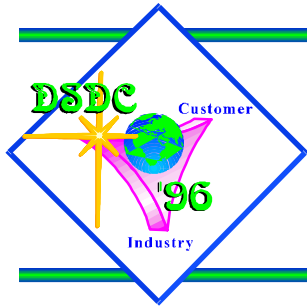




Enterprise Management Solution Description (cont.)

- **The Tivoli Management Environment**
 - **UNIX/TCP-IP network-based**
 - **CORBA (Common Object Request Broker Arch.) used for application-application communications: files, directories, commands, etc.**

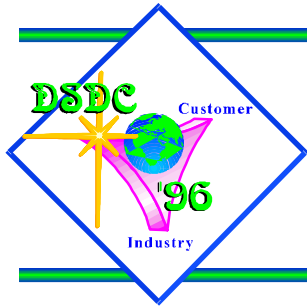




Enterprise Management Solution Description (cont.)

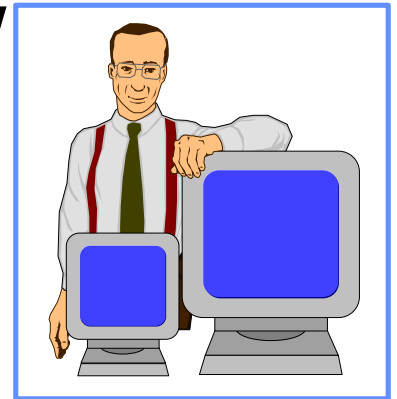
- **The Tivoli Management Environment (cont.)**
 - Repository for all managed system files, applications, user data, etc. (Sybase)
 - GUI used throughout and modular/object-based -- common API

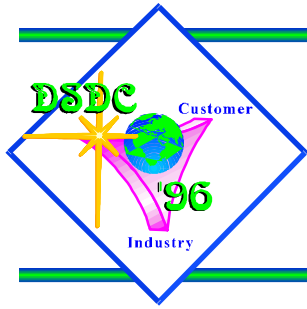




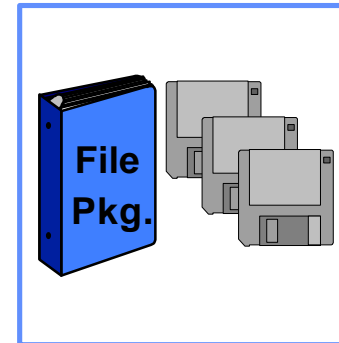
Enterprise Management Solution Description (cont.)

- **Main functions: Scalable Deployment, Event-Based Ops., Distributed Mgt., Tool Kits for Customization/Extension, Integrated Third-Party Apps.**
- **Scalable Deployment**
 - **Tivoli/Admin**
 - **“Point and click” administration of user and group information**
 - **Add users anywhere in the enterprise through a single interface/location**
 - **“Profiles” used to manage entire groups of users in a single operation**
 - **ALL user information: user and group privileges, "home" directories, mail addresses, workstation configuration parameters**

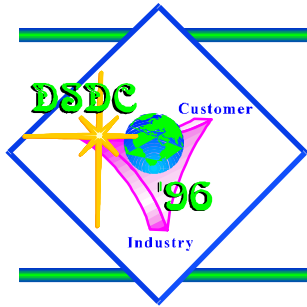




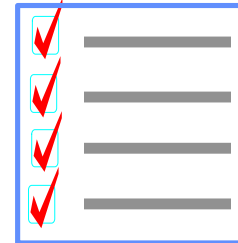
Enterprise Management Solution Description (cont.)



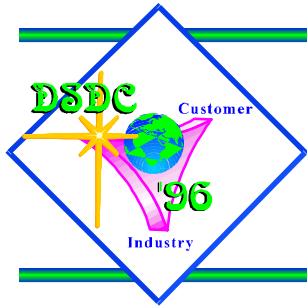
- **Scaleable Deployment (cont.)**
 - **Tivoli/Courier**
 - **Distributes applications/system software throughout enterprise from a single location to UNIX or PC clients**
 - **“Drag-and-drop” or automated (timed batch) operation**
 - **Allows distribution, installation and maintenance of consistent software configurations across enterprise**
 - **“File packages” used to encapsulate all software info (i.e., files, directories, permissions, installation procedures, prerequisites and update rules)**



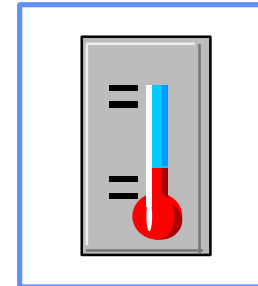
Enterprise Management Solution Description (cont.)



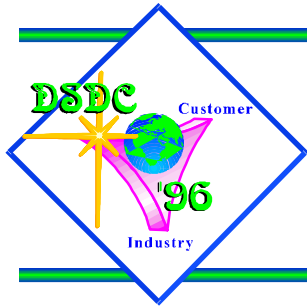
- **Scaleable Deployment (cont.)**
 - **Tivoli/Inventory**
 - **Server and Desktop Autodiscovery -- autodiscovery of hardware and software attributes of all PC (Windows 3.x/95/NT) and UNIX systems in the enterprise**
 - **Queries/Reports -- query all systems for appropriate configurations for software updates or to track assets**
 - **Flexible and Standard Data Storage Architecture -- standard DMI MIF format -- third-party query/reporting**
 - **Integration with the Tivoli Management Environment -- enables automation of management ops into a single task**
 - **Above products streamline and simplify manpower-intensive tasks in a distributed, client/server environment**



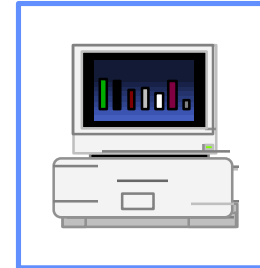
Enterprise Management Solution Description (cont.)



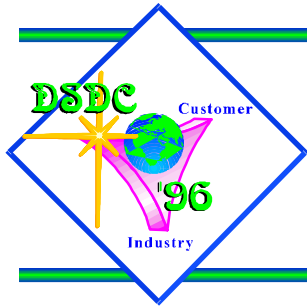
- **Event-based Operations**
 - **Tivoli/Sentry**
 - **Monitors systems resource availability independent of location and alerts system manager of problems -- disk, CPU, memory, print queue, network activity, etc.**
 - **Can trigger a pre-defined automatic action -- problems resolved before it impacts user even knows they exist**
 - **Standardizes administrative control**



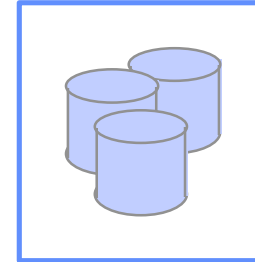
Enterprise Management Solution Description (cont.)



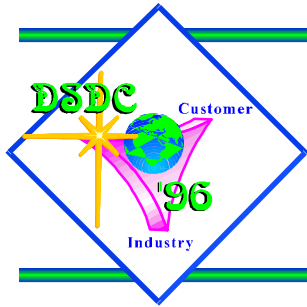
- **Event-based Operations (cont.)**
 - **Tivoli/Console**
 - **Centralized problem management, event correlation and automated operations for entire enterprise**
 - **Collects events from systems, network devices, database management systems and applications, e.g., Tivoli & third party; network managers from HP OpenView, SunNet Manager, NetWare; Management System and NetView/6000; Sybase Enterprise SQL Server Manager**
 - **Rules-based event correlation and filtering relate events and classify them into groups--console display reflects events relevant to each system manager**



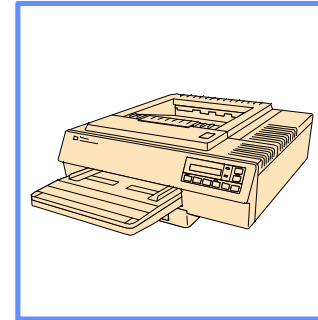
Enterprise Management Solution Description (cont.)



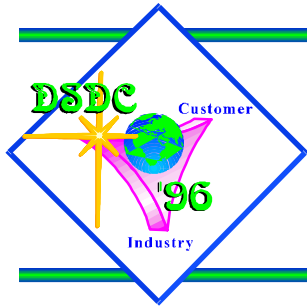
- **Distributed Management**
 - **Tivoli/FSM (File System Manager)**
 - **Automated network file systems mgt.--client/server**
 - **Control over end-user access without compromising security**
 - **Graphical interface for global network view of all available file systems**
 - **Maintains consistent file system/data configuration/access for related groups of systems in a single operation--can “clone” and propagate configurations to other systems**
 - **Maintains NFS, auto-mounter, and other file systems**
 - **Eliminates the need to update each machine individually--”virtual host”**



Enterprise Management Solution Description (cont.)

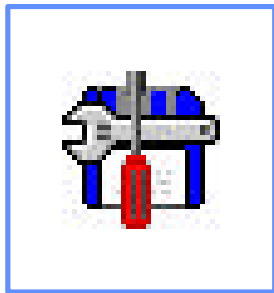


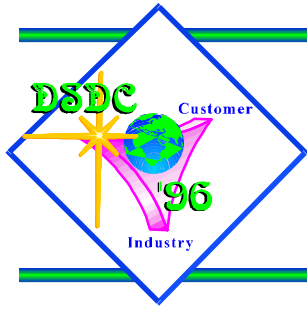
- **Distributed Management (cont.)**
 - **Tivoli/Print**
 - **Centralized method for managing distributed UNIX printing**
 - **Ensures printer availability available and monitors multiple print queues in both local and remote locations**
 - **Delegates printer management tasks and enforces distributed print service policies**



Enterprise Management Solution Description (cont.)

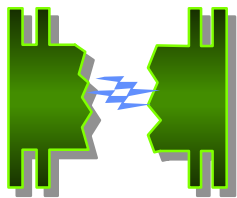
- **Tool Kits for Customization and Extension**
 - **Tivoli/AEF (Application Extension Facility) -- Adds site specific customizations to Tivoli applications-- no programming experience required**
 - **Tivoli/EIF Event Integration Facility --Integrates events from third-party or in-house applications with the Tivoli/Enterprise Console**
 - **Tivoli/ADE (Advanced Development Environment) -- Can develop new management applications using the API of the management platform--not used now, but can give capability to meet future, unforeseen requirements to tailor systems for lights-out operations**





Enterprise Management Solution Description (cont.)

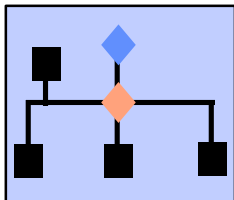
- **Integrated Third-Party Applications**

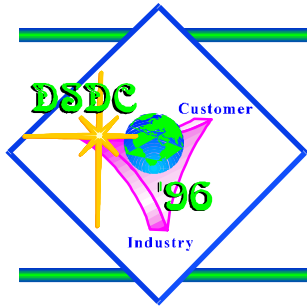


- **Tivoli/Plus -- plug-and-play software modules designed as integration points for specific, best-of-breed production control applications**

- **HP Network Node Manager (or SunNet Mgr)**

- **Provides immediate recognition of network/system problems with tools for troubleshooting**
- **Eases the management of communication systems, devices, and services on the LAN/WAN**
- **Aids in network design and control**
- **Allows for the configuration of network HW/SW**
- **Provides a graphical representation of the network and operates in a GUI environment**

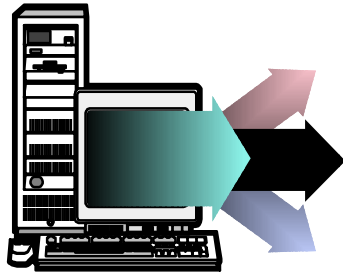




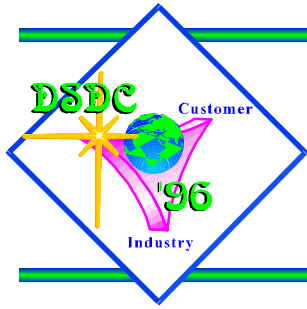
Enterprise Management Solution Description (cont.)

- **Integrated Third-Party Applications (cont.)**

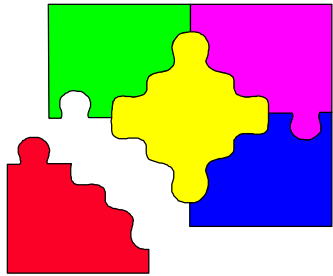
- **Remedy/ARS (Action Request System)**



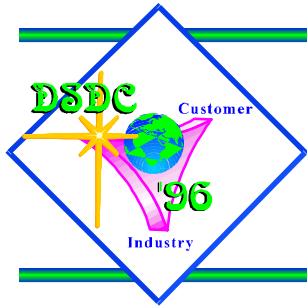
- **Client/server help-desk to support large enterprise**
- **Easy to use as a desktop productivity tool--customizable to meet operational needs**
- **Integrates with existing tools (e.g., e-mail) for submission/notification and provides automatic call distribution via telephone or pager for immediate notification and call details**
- **Provides case-based reasoning solutions for complete problem resolutions**
- **Improves responsiveness, productivity, and quality of the help-desk function**



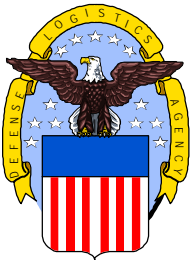
Enterprise Management Project Strategy



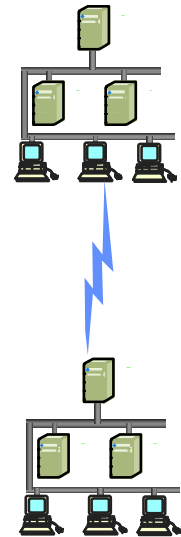
- **Requirements Analysis Stage -- Solution evaluation complete**
- **Acquisition Stage -- ID/IQ contracts: AFCAC 300 & 305; SBIS**
- **Training Stage -- Product familiarization/ops training**
- **Installation and Testing Stage -- PLFA/DSDC with contractor support**
- **Implementation Stage -- Initial operational capability, with PLFA/DSDC to maintain/support mid-tier systems**
- **Operations and Maintenance Stage -- Ongoing, with enhancements and more systems added as appropriate**
- **Future -- Beyond mid-tier systems: database management, PC/workstation management, automated backup**

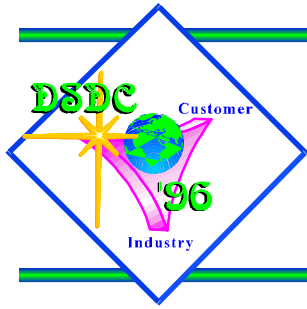


Enterprise Management Initial Target Systems/Status



- **DLA Materiel Management (DLA-MM)**
 - Management initially of six HP T-500 UNIX systems (two each: Columbus, Richmond, Philadelphia) via a central Administration Server/Console
 - Status: Awaiting funding for FY 96 implementation
- **DLA-DSDC**
 - Evaluate centralized system and network management involving two DSDC activities (test of remote capabilities)
 - System to be continued into production
 - Will provide standardized, computer-assisted management of the infrastructure to reduce labor costs and improve service to developers/functional users
 - Status: Requesting funding for FY 97-02: FY97-- implement the above; FY 98 through FY 02--deploy to five additional sites

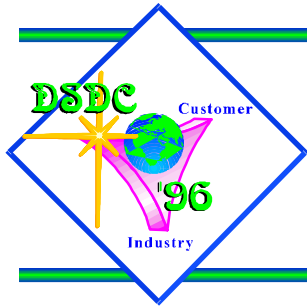




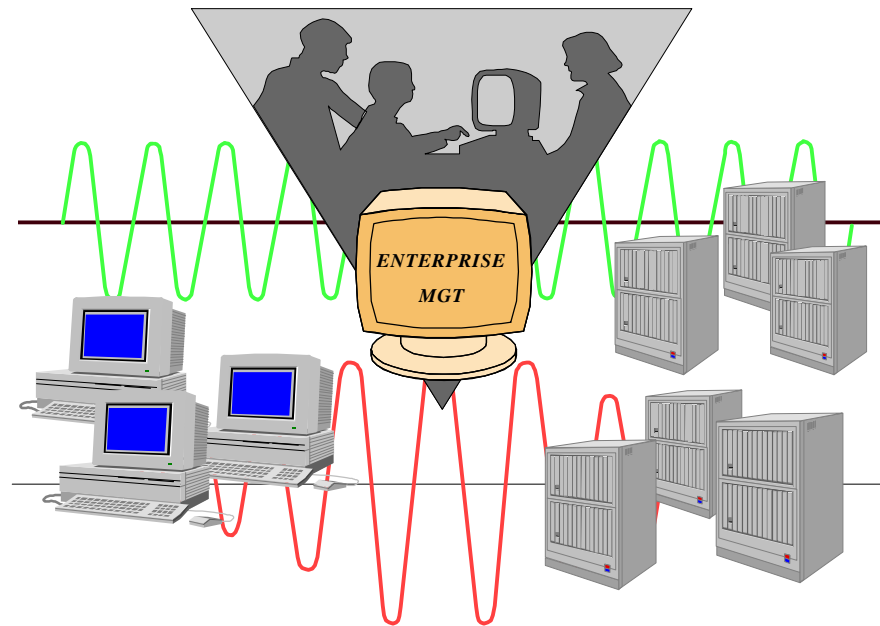
Enterprise Management

For further information:

- **DBM Contract:**
<http://www.wangfed.com/resource/dbm/homepage.html>
- **Super-Mini Contract:**
<http://www.is.prc.com/super.html>
- **Tivoli:**
<http://www.tivoli.com/products/showcase.html>
- **Remedy:**
<http://web.remedy.com/products.html>
- **HP Network Node Manager:**
<http://www.hp.com:80/nsmd/ov/whatisov/netnodman.html>
- **SunNet Manager:**
<http://www.sun.com/solstice/em-products/network/sunnetmgr.html>



Enterprise Management



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